

Cancers Affecting Adolescents and Young Adults

Nearly 72,200 adolescents and young adults (AYAs) aged 15-39 were diagnosed with cancer in 2006.¹ The incidence of specific cancer types varies dramatically across the AYA age continuum. For example, leukemias, lymphomas, and central nervous system (CNS) tumors are prevalent in younger AYAs; in those aged 20-39, these cancers decline in frequency while other cancers such as cervical, colorectal, and particularly breast cancer, comprise a larger share of cancers in older AYAs.¹

Mortality and Survival

Cancer is the leading cause of disease-related deaths in the AYA population; it is the most common disease-related cause of death among females and is second only to heart disease among males.² In the AYA age group, only homicide, suicide, and unintentional injury claim more lives than cancer.

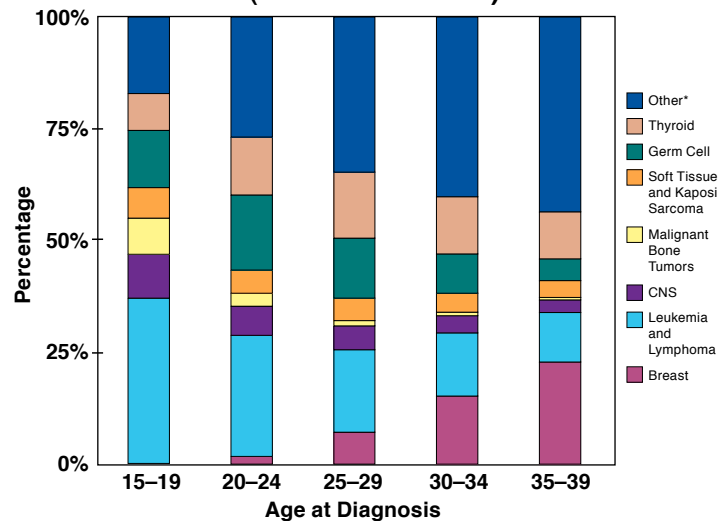
AYA survival varies by race and ethnicity. White, non-Hispanic AYAs have the highest cancer incidence and the highest overall 5-year survival rates. American Indian and Alaskan Native AYAs have the lowest cancer incidence rates, but they also have poor survival rates. African Americans have intermediate incidence rates and the lowest 5-year survival rates across the age range.

Compared with younger and older age groups, AYAs have experienced little improvement in cancer survival rates in more than two decades. Several factors might account for the lack of improved outcomes in AYAs with cancer, including limited access to care and insurance coverage, delayed diagnosis of primary cancers, inadequate treatment practices and settings, poor understanding of the biology and etiology distinguishing the cancers in this population, inadequate collection of patients and patient data, low numbers of clinical trials and poor participation, unique psychosocial and supportive care needs, inconsistent treatment and follow-up care guidelines, and limited emphasis on prevention and early detection.

¹Data from the Surveillance, Epidemiology, and End Results (SEER) Program (<http://seer.cancer.gov>).

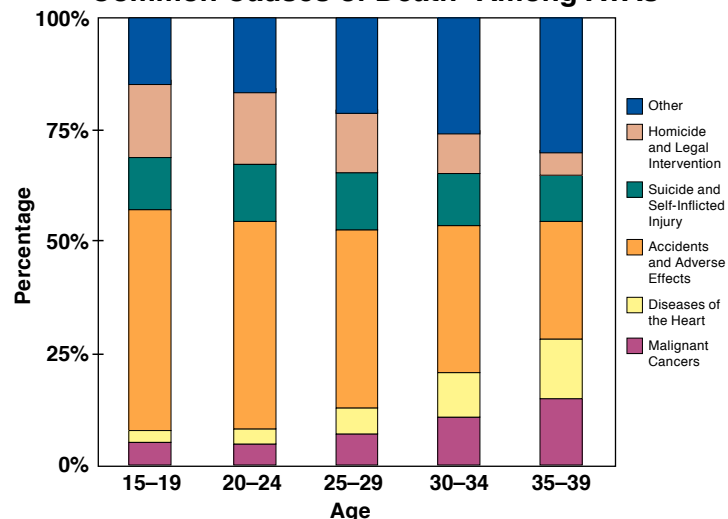
²Total U.S. deaths in 2006, ages 15-39, from the SEER Program and the National Center for Health Statistics.

Common Types of Cancers Affecting AYAs
(% cases/disease)



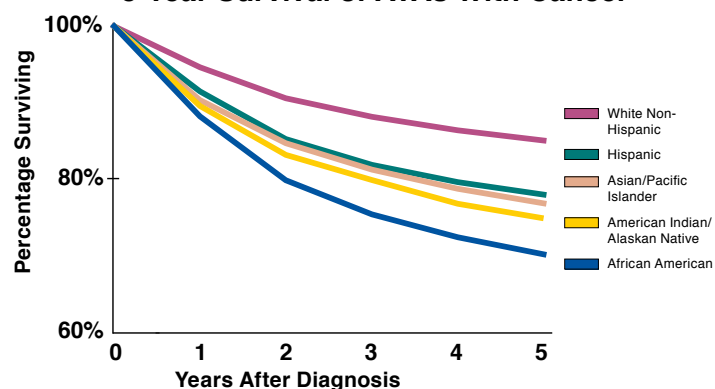
*Includes melanoma, colorectal, cervical, and other less prevalent cancers. Data source: SEER 17, 2002-2006, ages 15-39.

Common Causes of Death* Among AYAs



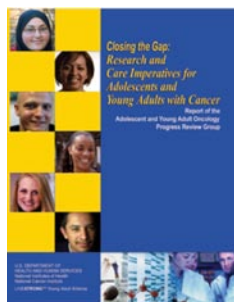
*U.S. Deaths, 2006. Underlying mortality data provided by the National Center for Health Statistics.

5-Year Survival of AYAs With Cancer

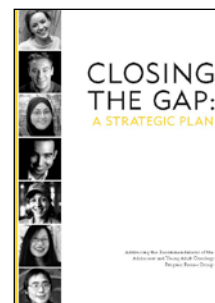


Hispanics can overlap with African Americans, Asians/Pacific Islanders, or American Indians/Alaskan Natives. Analysis was based on any death from any cancer site in both sexes and all races.

Planning for the Future and Moving Forward



In 2005-2006, NCI partnered with the Lance Armstrong Foundation (LAF) to address the special research and cancer care needs of AYAs and solicit recommendations for a national agenda to improve cancer prevention, early detection, diagnosis, treatment (including survivorship care), and outcomes among these patients. The group's report, ***Closing the Gap: Research and Care Imperatives for Adolescents and Young Adults with Cancer***, can be found at http://planning.cancer.gov/library/AYAO_PRG_Report_2006_FINAL.pdf.



In November 2006, representatives from NCI and LAF's LIVESTRONG Young Adult Alliance met to develop strategies for transitioning the above recommendations into reality. These strategies, detailed in the 2007 report ***Closing the Gap: A Strategic Plan***¹, include:

- Establish a strong scientific foundation to support the biological differences in tumors found in AYAs.
- Leverage completed, ongoing, and new clinical trials to obtain knowledge about cancer in AYAs.
- Increase healthcare provider awareness of AYA issues by working with professional societies and advocacy organizations.
- Facilitate the development of AYA standards for, and availability of, patient navigators and health coaches.

¹<http://www.livestrong.org/atf/cf/%7BD0794917-422C-499C-9C48-9ED3DDC42947%7D/LAF%20YAA%20Report.pdf>

Examples of NCI Activities Relevant to AYA Cancer

- The **International Ewing Sarcoma Study** is testing a promising new agent, an investigational monoclonal antibody called R1507, against Ewing sarcoma. This rare cancer is common in children and AYAs. http://www.cancer.gov/ncicancerbulletin/NCI_Cancer_Bulletin_031808/page3
- The **Phase I/II Study of Vandetanib in Young Patients With Hereditary Medullary Thyroid Carcinoma** is exploring the activity and safety of a new drug that specifically targets the genetic defect responsible for the disease. <http://clinicaltrials.gov/ct/show/NCT00514046>
- The **Phase II Study of Combination Chemotherapy in Adolescents and Young Adults With Newly Diagnosed Acute Lymphoblastic Leukemia (ALL)** is studying the responses of AYAs with newly diagnosed ALL to a pediatric chemotherapy regimen administered by adult hematologists and oncologists. <http://www.cancer.gov/clinicaltrials/CALGB-10403>
- The **Adolescents and Young Adults With Cancer Home Page** provides up-to-date information on cancer types affecting AYAs, treatment, coping and support, survivorship, and other topics. Information specialists can also answer questions about cancer at 1-800-4-CANCER. <http://www.cancer.gov/cancertopics/aya>

Selected Advances in AYA Cancer Research

- The Shanghai Women's Health Study demonstrated that adolescent and adult **soy food consumption is associated with a reduced risk of premenopausal breast cancer**. <http://www.ncbi.nlm.nih.gov/pubmed/19403632>
- Researchers found that **young adults with Hodgkin lymphoma and their twin siblings have a decreased ability to produce the cytokine interleukin-12**, which may contribute to the susceptibility to the disease. <http://www.ncbi.nlm.nih.gov/pubmed/18077789>
- Young adult survivors of **childhood acute lymphoblastic leukemia (ALL) or non-Hodgkin lymphoma (NHL) have a high prevalence of endocrine and metabolic disorders**, with a frequency dependent on the type of treatment received. <http://www.ncbi.nlm.nih.gov/pubmed/18429947>
- A survey showed that most adolescents believe that an **advance care planning document** would be helpful to adolescents living with a serious illness. <http://www.ncbi.nlm.nih.gov/pubmed/19115889>